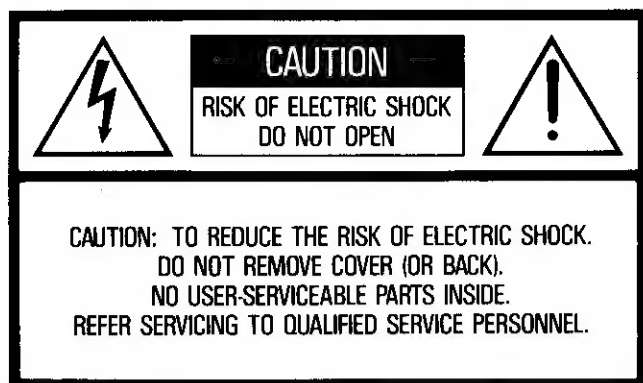


**YAMAHA
MEMORY BANK**

MBS-10

USER'S GUIDE



Explanation of Graphical Symbols

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



IMPORTANT SAFETY AND INSTALLATION INSTRUCTIONS

INFORMATION RELATING TO POSSIBLE PERSONAL INJURY, ELECTRIC SHOCK, AND FIRE HAZARD POSSIBILITIES HAS BEEN INCLUDED IN THIS LIST.

WARNING—When using electronic products, basic precautions should always be followed, including the following:

1. Read all Safety and Installation Instructions, Supplemental Marking and Special Message Section data, and assembly instructions (where applicable) BEFORE using your Yamaha electronic product. Check unit weight specifications before you attempt to move this instrument!

2. Main Power Supply Verification: Your Yamaha electronic product has been manufactured specifically for the main supply voltage used in your area. If you should move, or if any doubt exists, please contact your dealer for instructions. The main supply voltage required by your electronic product is printed on the name plate. For name plate location, see graphic in Special Message Section.

3. This product may be equipped with a polarized line plug (one blade wider than the other). If you are unable to insert the plug into the outlet, contact an electrician to have your obsolete outlet replaced. Do NOT defeat the safety purpose of the plug. Yamaha products not having polarized plugs incorporate construction methods and designs that do not require line plug polarization.

4. **WARNING**—Do NOT place objects on your electronic product's power cord or place the unit in a position where anyone could trip over, walk over, or roll anything over cords of any kind. Do NOT allow your electronic product or its bench to rest on or be installed over cords of any type. Improper installations of this type create the possibility of a fire hazard and/or personal injury.

5. Environment: Your electronic product should be installed away from heat sources such as a radiator, heat registers and/or other products that produce heat. Additionally, the unit should not be located in a position that exposes the cabinet to direct sunlight, or air currents having high humidity or heat levels.

6. Your Yamaha electronic product should be placed so that its location or position does not interfere with its proper ventilation.

7. Some Yamaha electronic products may have benches that are either a part of the product or supplied as an optional accessory. Some of these benches are designed to be dealer assembled. Please make sure that the bench is stable before using it. The bench supplied by Yamaha was designed for seating only. No other uses are recommended.

8. Some Yamaha electronic products can be made to operate with or without the side panels or other components that constitute a stand. These products should be used only with the components supplied or a cart or stand that is recommended by the manufacturer.

9. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.

10. Do not use your Yamaha electronic product near water or in wet environments. For example, near a swimming pool, spa, or in a wet basement.

11. Care should be taken so that objects do not fall, and liquids are not spilled, into the enclosure through openings.

12. Your Yamaha electronic product should be serviced by a qualified service person when:

- a. The power-supply cord or plug has been damaged; or
- b. Objects have fallen, or liquid has been spilled into the product; or
- c. The product has been exposed to rain; or
- d. The product does not operate, exhibits a marked change in performance; or
- e. The product has been dropped, or the enclosure of the product has been damaged.

13. When not in use, always turn your Yamaha electronic product "OFF". The power-supply cord of the product should be unplugged from the outlet when it is to be left unused for a long period of time. Notes: In this case, some units may lose some user programmed data. Factory programmed memories will not be affected.

14. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

15. Electromagnetic Interference (RFI). This series of Yamaha electronic products utilizes digital (high frequency pulse) technology that may adversely affect Radio/TV reception or the operation of other devices that utilize digital technology. Please read FCC Information (Page 12) for additional information.

**PLEASE KEEP THIS MANUAL
FOR FUTURE REFERENCE!**

Thank you for purchasing a Yamaha Memory Bank MBS-10.

Developed as one of the components that comprise the expanded system of the HX Series Electone, this Memory Bank offers numerous features for transferring data between a Voice Expander and RAM Pack, plus other convenient features.

To be sure you get maximum satisfaction and use the MBS-10 under optimum conditions, please read through this User's Guide carefully.

- Before reading this Guide, be sure to read the "HX-SERIES EXPANDED SYSTEM USER'S GUIDE."
- To avoid unexpected accidents, be sure to read "Handling Precautions" and "Connection Procedures."
- The contents of this Guide are subject to change without advance notice.
- While every precaution has been taken to ensure the accuracy of this Guide, please contact the Yamaha Music Dealer where you purchased this unit in the case you have any questions or detect any error or omission.

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I-1

Handling Precautions

*Be sure to also read the section on "Handling Precautions" in the separate "HX-SERIES EXPANDED SYSTEM USER'S GUIDE."

Power Supply

- Make sure to use the supply voltage that is listed on the nameplate at the bottom of this unit.
- In case of electrical storm probability, unplug the power cord from the electrical socket in advance.
- If you will not use the product for a long period of time, unplug its power cord from the socket.
- Please note that the product may malfunction if the product is used on the same circuit with another device or appliance of large power consumption, or with numerous devices on an adapter plug.

Power Cord

- Be careful not to touch the power plug with wet hands; you may receive an electric shock.
- To prevent damage and short-circuiting of the cord wires, always hold the power plug when unplugging the cord and never pull on the cord.
- Do not place objects or step on the power cord.
- It is dangerous to extend the length of the power cord yourself.

Connection

- Before connecting this unit, make sure that the POWER switch of all devices to be connected is turned OFF.
- Properly connect this unit while referring to "Connection Procedures" in this Guide as well as "Connection Procedures" in the separate "HX-SERIES EXPANDED SYSTEM USER'S GUIDE."
- Avoid binding the port cables or MIDI cables together with the power cords.

Remodeling and Parts Replacement

- Do not remodel any of the components nor replace their parts yourself. Such actions can cause serious damage to the entire system.
- The replacement of any parts as required for repair or other maintenance must be done by qualified service personnel.

Handling and Transport

- Never subject the buttons, knobs, and switches to unnecessary force.
- To prevent damage and short-circuiting of the cord wires, always hold the plug when unplugging the cord and never pull on the cord.
- To prevent damage and short-circuiting of the cord wires during transport of this unit, make sure to disconnect the power cord and all other cords before transport.
- Do not place objects on top of this unit nor block the ventilation openings.
- Be careful to avoid dropping metals object, paper, or other foreign matter into the openings.
- If water accidentally enters the unit's interior, immediately turn OFF the POWER switch, unplug the power cord, and contact the Yamaha Music Dealer where you purchased this unit.

Choosing an Installation Site

- Avoid places exposed to direct sunlight.
- Never place the unit near sources of heat, such as a heater.
- Avoid places exposed to excessive moisture, dust, and excessively low temperatures.
- Install the unit on a flat surface that is not subject to vibration.
- If possible, it is best to install the unit using the dedicated rack RAX-1/RAX-1 (S).
- Avoid places where chemicals are used or where the unit is likely to be exposed to chemicals.

Cleaning the Outer Case

- Clean the outer case by wiping it with a soft, dry cloth.
- Never use thinner, benzine, or chemically harsh solvents nor chemically-treated cloths.
- If the case is particularly dirty, moisten a soft, clean cloth in a mild detergent diluted with water, wring the cloth out well, then wipe off the soiled areas. Next, wipe the unit again with a dry cloth.

Electromagnetic Interference

- This unit utilizes digital (high-frequency pulse) technology that may adversely affect the reception of radio, TV, or other electrical equipment used at the same time. Be sure to provide adequate distance between this unit and the device that is being affected by the interference.
- If a high-power broadcasting station or amateur wireless station is nearby, its radio waves may affect this unit.

If the Unit Operates Abnormally

- If this unit produces smoke or an abnormal odor, immediately unplug the power cord and contact the Yamaha Music Dealer where you purchased this unit.
- Even if you think that the unit has simply blown a fuse, contact the Yamaha Music Dealer where you purchased this unit.

Handling and Storage of RAM Packs and ROM Packs

- ▶ Two types of RAM Pack can be used with MBS-10: the 8K byte RP-3 or the 32K byte RP-5.
- ▶ Observe the following precautions when handling a RAM Pack or ROM Pack:

CAUTION: Be careful not to drop the Pack or otherwise expose it to external stress or impact.

CAUTION: Make sure the metal section of the insertion inlet is never rubbed by hard objects nor scratched.

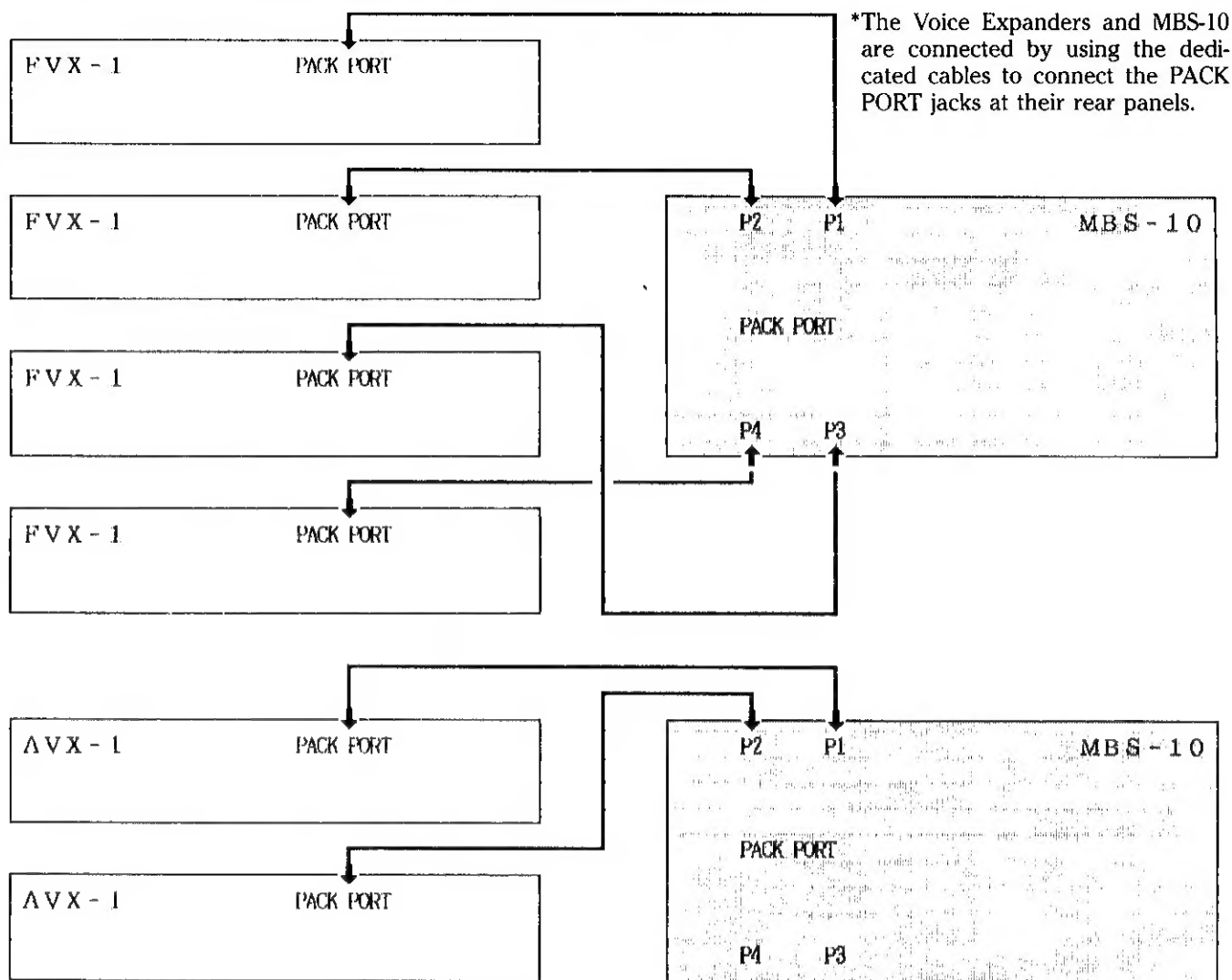
CAUTION: Take care not to allow water or dust to enter inside the Pack.

CAUTION: When storing the Pack, make sure to avoid any site exposed to extreme temperatures or humidity. Also, make sure to always store the Pack in the case provided.

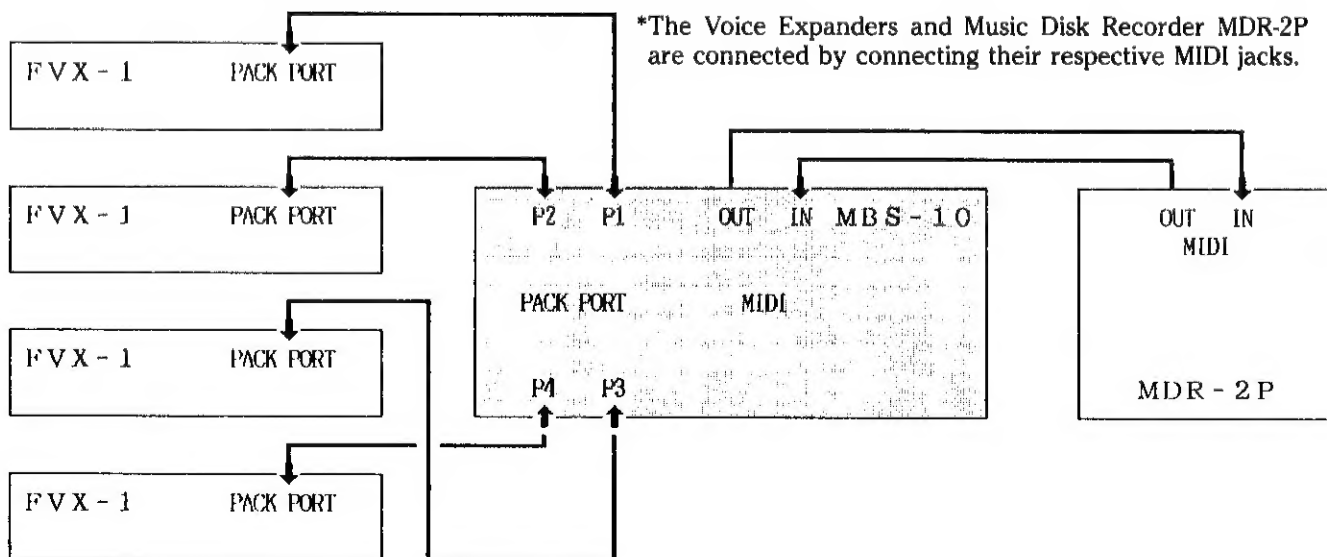
CAUTION: When carrying the Pack, its data can be destroyed by static electricity accumulated in your body or clothing, so be sure to carry it in the case provided.

*For more information, Also read "Connection Procedures" in the "HX-SERIES EXPANDED SYSTEM USER'S GUIDE."

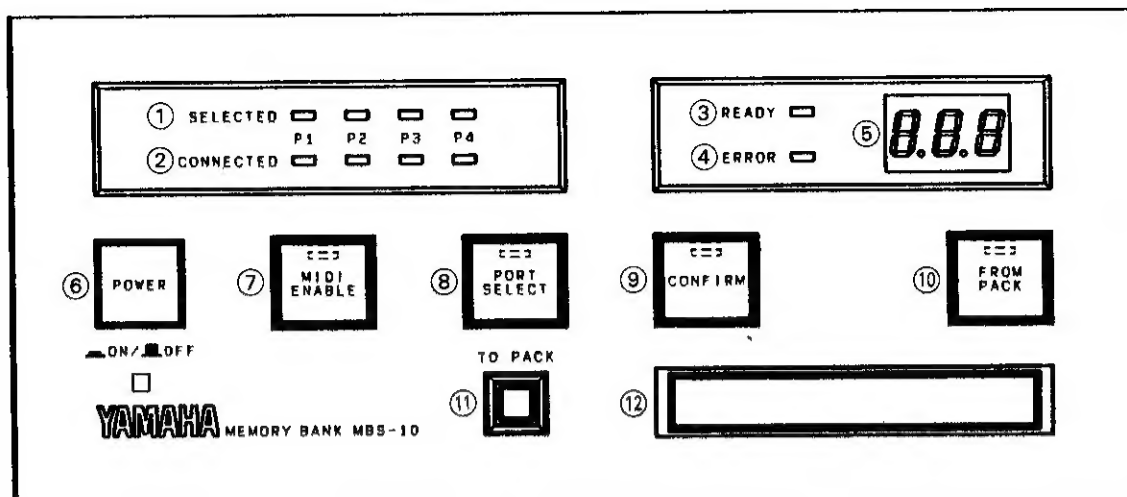
[For Data Transfer Between Voice Expanders and RAM Pack]



[For Data Transfer Between Voice Expanders and MDR-2P]



■ Front Panel



① **SELECTED Ports:** These lamps light up to indicate which Pack Ports have been selected by the PORT SELECT switch. When MBS-10 is first turned ON, all four lamps light up.

② **CONNECTED Ports:** These lamps light up to indicate which Pack Ports are connected to Voice Expanders.

③ **READY:** This lamp lights up to indicate that a RAM Pack has been installed which is capable of read or writing data.

④ **ERROR:** This lamp flashes to indicate that an incompatible RAM Pack is installed or that an error has occurred during data transfer or other operations.

⑤ **Digital Display:** This displays either the amount of data to be sent to or from the connected Voice Expanders or the Status Codes.

⑥ **POWER:** This switch turns the power of MBS-10 to ON or OFF. Make sure this switch is OFF before connecting any of the Voice Expanders.

⑦ **MIDI ENABLE:** Set this switch to ON when you wish to transfer data with the performance-recording device.

⑧ **PORT SELECT:** This switch selects the Pack Ports to be used for data transfer. Each time this switch is pressed, selection is switched in the sequence of: All Ports ON → All Ports OFF → Port 1 → Port 2 → Port 3 → Port 4.

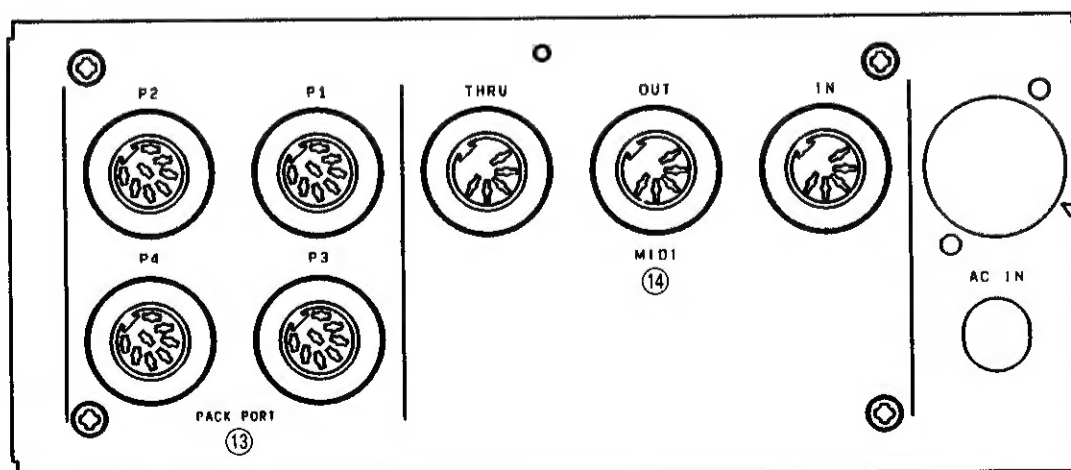
⑨ **CONFIRM:** This switch is pressed to execute a From Pack or To Pack operation. It is also pressed to clear a Status Code from the Digital Display.

⑩ **FROM PACK:** To transfer the Bulk Data memorized in a RAM Pack to the Voice Expanders, press this switch while pressing the CONFIRM switch.

⑪ **TO PACK:** To transfer the Bulk Data of Voice Expanders to a RAM Pack, press this switch while pressing the CONFIRM switch.

⑫ **Pack Insertion Inlet:** A RAM Pack (or ROM Pack) is inserted here.

■ Rear Panel



⑬ **PACK PORT:** These jacks allow bulk data to be transferred to and from the connected Voice Expanders, and permit up to four Voice Expanders to be connected. These PACK PORT jacks are each connected to the PACK PORT jack of a Voice Expander using a dedicated cable.

⑭ **MIDI:** These jacks allow Bulk data to be transferred to and from a connected performance-recording device. They are respectively connected to the corresponding MIDI jacks of the performance-recording device.

II-1 Data Transfer Between Voice Expanders and RAM Pack

Outline

- You can retrieve Registration data and other Bulk data that have been set at the Voice Expanders (FVX-1 and/or AVX-1), then write the data to a RAM Pack. (To Pack operation)
- The Bulk data memorized in a RAM Pack can also be read and transferred to the Voice Expanders. (From Pack operation)

- Besides Registration data, Common User voice data and other Bulk data can also be transferred to or from a RAM Pack.
- The User Voice data of FVX-1 can also be transferred to and from a RAM Pack.

Procedure

The Power On Status and Port Selection

① Check the connection of the cables.

While referring to "Connection Procedures" on page 3 of this Guide and to "Connection Procedures" in the "HX-SERIES EXPANDED SYSTEM USER'S GUIDE," make sure that the MBS-10 is properly connected to the external devices, such as Voice Expanders.

CAUTION: Before connecting the MBS-10 with the Voice Expanders, make sure that all of the POWER switches are OFF. Inserting or removing a cable while any POWER switches are ON may result in operating errors.

② Set the POWER switch of MBS-10 and the connected devices to ON.

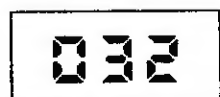


ON / OFF

When the POWER switches are set to ON, the Digital Display and the indicator lamps assume the following status (the default status):

- **Digital Display:** Displays the total amount of Bulk data (in kilobyte units) that is memorized at all connected Voice Expanders.
- **SELECTED Ports:** All four lamps light up.
- **CONNECTED Ports:** The lamp of any port connected to a Voice Expander lights up.
- **Other switches and lamps:** All switches are OFF and all lamps are out.

NOTE: When the POWER switches are set to ON, the data which indicates the Bulk data amount is sent to MBS-10 from each connected Voice Expander, and the total amount is shown at the Digital Display. FVX-1 has a Bulk data capacity of 8K bytes, and AVX-1 has a Bulk data capacity of 5K bytes. Therefore, MBS-10 displays [032] when four FVX-1 units are connected, or [010] when two AVX-1 units are connected.



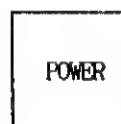
(Four FVX-1 units connected)



(Two AVX-1 units connected)

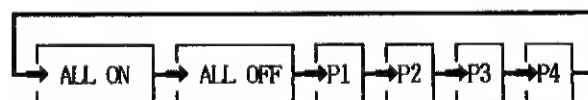
③ If necessary, use [PORT SELECT] to select Pack Ports you wish to use for transferring data.

SELECTED	■	□	□	□
	P1	P2	P3	P4
CONNECTED	■	■	■	■



When the POWER switch is set to ON, all SELECTED Port lamps light up. To transfer Bulk data with all of the connected Voice Expanders, perform a To Pack or From Pack operation in this status.

To transfer Bulk data with only a specific Voice Expander, select its Pack Port using the PORT SELECT switch. Each time the PORT SELECT switch is pressed, Pack Port selection changes as shown in the figure below, so press the switch the required number of times while checking the SELECTED Port lamps.



ALL ON	For transferring Bulk data with all of the connected Voice Expanders
ALL OFF	For transferring Bulk data between the performance-recording device and a RAM Pack, or for a Pack Copy operation (pages 8 and 9)
P1 P2 P3 P4	For transferring Bulk data with only a specific Voice Expander

NOTE: When the Pack Port of only a specific Voice Expander is selected, the Digital Display shows the Bulk data amount of the Voice Expander connected to that port.

Writing Data to a RAM Pack (To Pack)

① Insert the RAM Pack into MBS-10.

Holding the RAM Pack to which you wish to write the Bulk data so that its label faces upward, securely insert it.

► **To write the Bulk data of all connected Voice Expanders:** Use RP-5 (32K bytes).

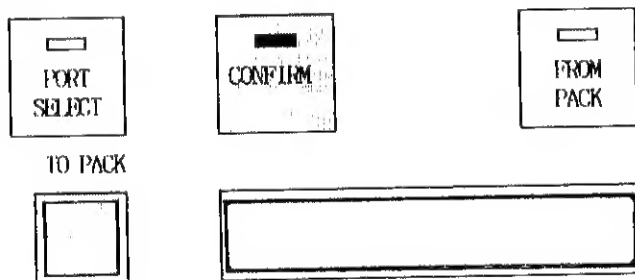
► **To write the Bulk data of a specific Voice Expander:** You may use either RP-5 or RP-3 (8K bytes).

NOTE: If you insert a RAM Pack that has never been used (unformatted) or a RAM Pack that contains data sent from another instrument or device, the ERROR lamp flashes and Status Code [**02**] is shown at the Digital Display. If you insert a RAM Pack containing the Bulk data of Voice Expanders of a different model or that were connected differently from the present connected status, the ERROR lamp flashes and Status Code [**04**] is shown at the Digital Display.

By pressing the CONFIRM switch in either case, you can cancel the flashing of the ERROR lamp and clear the Status Code display, allowing you to resume the operation of writing data.

NOTE: If you insert a RAM Pack that contains Bulk data of Voice Expanders that were connected in the same way as the present connected status or an HX Voice Pack (see the next page), the READY lamp lights up. When a To Pack operation is performed, however, please note that the original data of the RAM Pack will be replaced with the new data.

② While pressing [CONFIRM], press [TO PACK].



When the above step is performed, the TO PACK lamp lights up, the Bulk Data is received from the Voice Expanders, and that data is written to the RAM Pack. Writing to the RAM Pack is completed in several seconds after which the TO PACK lamp flashes several times then goes out.

► **When all Pack Ports are selected:** The Bulk data of all connected Voice Expanders is grouped and written to the RAM Pack.

► **When a specific Pack Port is selected:** The Bulk data of only the Voice Expander connected to the selected Pack Port is written to the RAM Pack.

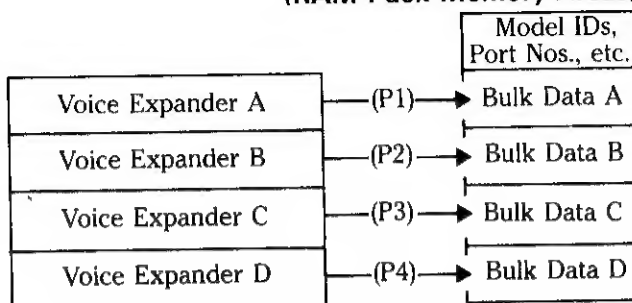
NOTE: If you attempt to write the Bulk data of multiple Voice Expanders to RAM Pack RP-3, the ERROR lamp flashes, Status Code [**01**] is shown at the Digital Display, and no data is written.

Data may also not be written due to other causes. If this happens, remedy the problem by following the instructions in "The Status Codes" on page 11.

[Writing the Bulk Data of Multiple Voice Expanders]

If all Pack Ports are selected by the PORT SELECT switch and the To Pack operation is performed, the Bulk data of each Voice Expander is grouped and written to the respective memory areas of the RAM Pack.

(RAM Pack Memory Areas)



[Voice Expander Bulk Data That Can be Written to a RAM Pack]

The To Pack operation described on the left enables the Registration data and other Bulk data memorized in the Voice Expanders to be written to a RAM Pack. (►For details, refer to the "FVX-1/AVX-1 USER'S GUIDE.")

Registration data	<ul style="list-style-type: none"> ●Registration Memory 1-16 ●Functions set for each Tone Group ●Vibrato data [FVX-1] ●The current panel status
Voice data	<ul style="list-style-type: none"> ●Common User voices 1-8 [FVX-1]
Unit data	<ul style="list-style-type: none"> ●Program Effectors 1-4 ●KEY MODE SELECT [AVX-1] ●VOICE BANK SELECT [FVX-1] ●Other Unit data

[Operational Control From a Voice Expander Panel]

The To Pack operation can also be performed from a Voice Expander panel. (►Refer to the "FVX-1/AVX-1 USER'S GUIDE.") When the To Pack operation is performed from a Voice Expander, only the Bulk data of that Voice Expander is sent to MBS-10 and written to the RAM Pack. As for Pack Port selection, after the data transfer is completed, only the Pack Port at which the To Pack operation was performed remains selected.

[Writing the User Voice Data of FVX-1]

The FVX-1 User Voice data (the data of 124 voices) is written to a RAM Pack by performing a To Pack operation at the FVX-1 panel as described below. (►For details, refer to the "FVX-1/AVX-1 USER'S GUIDE.")

- ① Insert the RAM Pack RP-5 into MBS-10.
- ② Press the FUNCT. switch of FVX-1 the number of times required to display [**F20**] (USER VOICE AREA SELECT) at the Common Display.
- ③ Select the User Voice Area (first half or last half) to be written to the RAM Pack.
- ④ Perform a To Pack operation at the FVX-1 panel.

NOTE: The amount of User Voice data [**032**] is shown at the Digital Display only while the data is being written to the RAM Pack.

Reading Data from a RAM Pack (From Pack)

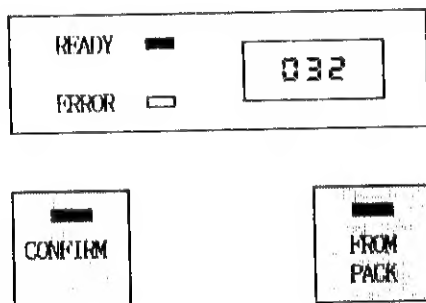
① Insert the RAM Pack into MBS-10.

Holding the RAM Pack that contains the desired Bulk data so that its label faces upward, securely insert it. The READY lamp lights up to indicate that the RAM Pack's Bulk data can be transferred to the Voice Expanders.

NOTE: To perform a From Pack operation, be sure to insert a RAM Pack that contains the Bulk data of Voice Expanders that were connected in the same way as the present connected status or an HX Voice Pack. If you insert a RAM Pack containing the Bulk data of Voice Expanders of a different model or that were connected differently from the present connected status, the ERROR lamp flashes and Status Code [**034**] is shown at the Digital Display. If this happens, turn OFF the POWER switch then re-connect the Voice Expanders to match the system connection used when the data was written to that RAM Pack by the To Pack operation.

NOTE: If you insert a RAM Pack that has never been used (unformatted) or a RAM Pack that contains data sent from another instrument or device, the ERROR lamp flashes and Status Code [**032**] is shown at the Digital Display. Data cannot be read from these types of RAM Packs.

② While pressing [CONFIRM], press [FROM PACK].



When the above step is performed, the FROM PACK lamp lights up, the Bulk data memorized in the RAM Pack is read, the transfer of that data to the Voice Expanders is begun. Transfer to the Voice Expanders is completed in several seconds after which the FROM PACK lamp flashes several times then goes out.

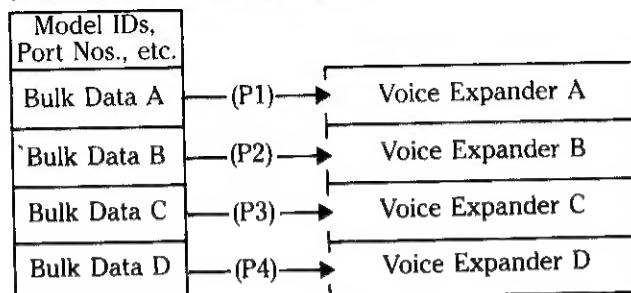
► **When all Pack Ports are selected:** The Bulk data that was grouped and written to the RAM Pack is respectively transferred to all connected Voice Expanders.

► **When a specific Pack Port is selected:** The Bulk data written to the RAM Pack is transferred only to the Voice Expander connected to the selected Pack Port.

NOTE: If you attempt to perform a From Pack operation on a RAM Pack that was written when the Voice Expanders were connected differently than the present connected status, the ERROR lamp flashes, Status Code [**034**] is shown at the Digital Display, and no data is transferred. Data may also not be transferred due to other causes. If this happens, remedy the problem by following the instructions in "The Status Codes" on page 11.

[Transferring the Bulk Data of Multiple Voice Expanders]
If all Pack Ports are selected by the PORT SELECT switch and the From Pack operation is performed, the Bulk data that was grouped and written in the memory areas of the RAM Pack is transferred to its respective Voice Expander.

(RAM Pack Memory Areas)



[Operational Control From a Voice Expander Panel]

The From Pack operation can also be performed from a Voice Expander panel. (➡Refer to the "FVX-1/AVX-1 USER'S GUIDE.") When the From Pack operation is performed from a Voice Expander, only the Bulk data corresponding to that Voice Expander is read and transferred from MBS-10 to that Voice Expander. As for Pack Port selection, after the data transfer is completed, only Pack Port for which the From Pack operation was performed remains selected.

[Transferring the User Voice Data]

The User Voice data (the data of 124 voices) memorized in a RAM Pack is read and transferred to FVX-1 by performing a From Pack operation at the FVX-1 panel as described below. (➡For details, refer to the "FVX-1/AVX-1 USER'S GUIDE.")

- ① Insert the RAM Pack that contains the User Voice data into MBS-10.
- ② Press the FUNCT. switch of FVX-1 the number of times required to display [**F20**] (USER VOICE AREA SELECT) at the Common Display.
- ③ Select the User Voice Area (first half or last half) that contains the data you wish to send to FVX-1.
- ④ Perform a From Pack operation at the FVX-1 panel.

NOTE: The amount of User Voice data [**032**] is shown at the Digital Display only while the data is being transferred to the Voice Expander.

[Transferring HX Voice Data]

If you attempt a From Pack operation using a RAM Pack that contains the data of another instrument or device, an error occurs. If a Voice Pack of the HX-Series Electones (which contains User Voice data) is used, however, no error occurs and the Voice data can be transferred to FVX-1. In this case, among the data written in the HX Voice Pack, only the data of FM polyphonic User Voices 1 to 8 is transferred to FVX-1 where it is memorized as Common User Voices 1 to 8.

Outline

- Bulk data can be retrieved from the Voice Expanders, then transferred to a performance-recording device, such as MDR-2P.
- You can also retrieve the Bulk data memorized in a performance-recording device, such as MDR-2P, then transfer it to the Voice Expanders.

- The Bulk data which can be transferred consists of the Registration of Voice Expanders, etc. (→see page 6)
- It is also possible to transfer Bulk data between a RAM Pack and a performance-recording device.

Procedure

[Transfer to a performance-recording device]

① Check the connections of the cables.

Connect the PACK PORT jacks of the Voice Expanders as well as the MIDI jacks of the performance-recording device, such as MDR-2P. (→see page 3)

② Set [MIDI ENABLE] to ON.



Setting the MIDI ENABLE switch to ON enables Bulk data to be transferred to the performance-recording device.

③ If necessary, select the Pack Ports.

To transfer the Bulk data of all connected Voice Expanders, select all of the Pack Ports. To transfer the Bulk data of only a specific Voice Expander, select its Pack Port. (→see page 5)

④ At the performance-receiving device, perform the operation for receiving the Bulk data.

In case the Music Disk Recorder MDR-2P is used, the transfer of Bulk data from the Voice Expanders to MDR-2P is started by pressing [RECORD], then pressing [PLAY NORMAL]. When transfer is completed, a numeral is shown at the TIME & CONTROL Display of MDR-2P, so press [STOP]. (→Refer to the "MDR-2P USER'S GUIDE.")

NOTE: After recording the Voice Expander Bulk data to MDR-2P, if you wish to record the Performance data for the Voice Expanders, change the connection of the MIDI cables, then record the data to a different Song No. In addition, if the MIDI Thru Box or Merge Box is used, the Bulk data and Performance data can be recorded at the same Song No.

NOTE: If an error occurs during the transfer of Bulk data, the ERROR lamp flashes and a Status Code is shown at the Digital Display of MBS-10, so remedy the problem by following the instructions in "The Status Codes" on page 11.

[How to Transfer RAM Pack Data to a Performance-Recording Device]

- ① Use the PORT SELECT switch to set all Pack Ports to OFF.
- ② Perform a From Pack operation for reading the Bulk data of the RAM Pack to MBS-10.
- ③ At the performance-recording device, perform the operation to receive the Bulk data.

[Transfer to the Voice Expanders]

① Check the connections of the cables.

Make sure that the connected status of the PACK PORT and MIDI jacks are identical to the status used when the Bulk data was transferred to the performance-recording device.

② Set [MIDI ENABLE] to ON.



Setting the MIDI ENABLE switch to ON enables Bulk data to be transferred from the performance-recording device to the Voice Expanders.

③ If necessary, select the Pack Ports.

To transfer the Bulk data to all connected Voice Expanders, select all of the Pack Ports. To transfer the Bulk data to only a specific Voice Expander, select its Pack Port. (→see page 5)

④ At the performance-receiving device, perform the operation for sending the Bulk data.

In case the Music Disk Recorder MDR-2P is used, the transfer of Bulk data to the Voice Expanders is started by selecting the Song. No. at which the desired Bulk data is recorded, then pressing [PLAY NORMAL]. When transfer is completed, a numeral is shown at the TIME & CONTROL Display of MDR-2P, so press [STOP]. (→Refer to the "MDR-2P USER'S GUIDE.")

NOTE: After transferring Bulk data from MDR-2P, if you wish to play back the Performance data of the Voice Expanders, change the connection of the MIDI cables, then select the Song. No. at which the Performance data is recorded. In addition, if the MIDI Thru Box is used, Performance data which is recorded at the same Song No. as the Bulk data can be played back in succession.

NOTE: If an error occurs during the transfer of Bulk data, the ERROR lamp flashes and a Status Code is shown at the Digital Display of MBS-10, so remedy the problem by following the instructions in "The Status Codes" on page 11.

[How to Transfer Data from the Performance-Recording Device to a RAM Pack]

- ① Use the PORT SELECT switch to set all Pack Ports to OFF.
- ② At the performance-recording device, perform the operation for retrieving the Bulk data to MBS-10.
- ③ Perform a To Pack operation to write the retrieved data at MBS-10 to the RAM Pack.

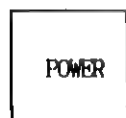
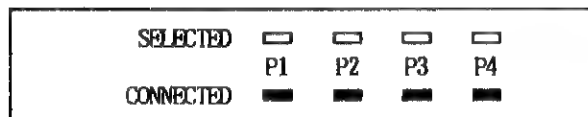
Outline

- All the Bulk data that is written onto a RAM Pack (up to 32K bytes) can be directly copied to another RAM Pack.

- Even in the case of a RAM Pack that contains data other than the Bulk data of Voice Expanders, the RAM Pack can be copied if its memory capacity does not exceed 32K bytes.

Procedure

- ① Use [PORT SELECT] to set all Pack Ports to OFF.



- ② Insert the source RAM Pack you wish to copy.
Insert a RAM Pack that contains either Bulk data written by MBS-10 or data written from another instrument or device. If the RAM Pack is in normal condition, the READY lamp lights up regardless of the data it contains.

► **RAM Packs that can be copied:** RP-5 (32K bytes)
RP-3 (8K bytes)

- ③ While pressing [CONFIRM], press [FROM PACK].



When the above step is performed, the data which was written to the RAM Pack is read and stored in the internal memory of MBS-10.

NOTE: If the From Pack operation is performed for a copy-protected ROM Pack, the ERROR lamp flashes, [**ERR**] is shown at the Digital Display, and no data is retrieved. Data may also not be retrieved due to other causes. If this happens, remedy the problem by following the instructions in "The Status Codes" on page 11.

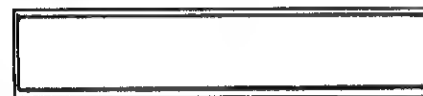
- ④ Insert the destination RAM Pack.

Remove the source RAM Pack, then insert the destination RAM Pack to which you wish to copy the data. Make sure that the memory capacity of the destination Pack is identical to (or larger than) that of the source Pack.

- ⑤ While pressing [CONFIRM], press [TO PACK].



TO PACK



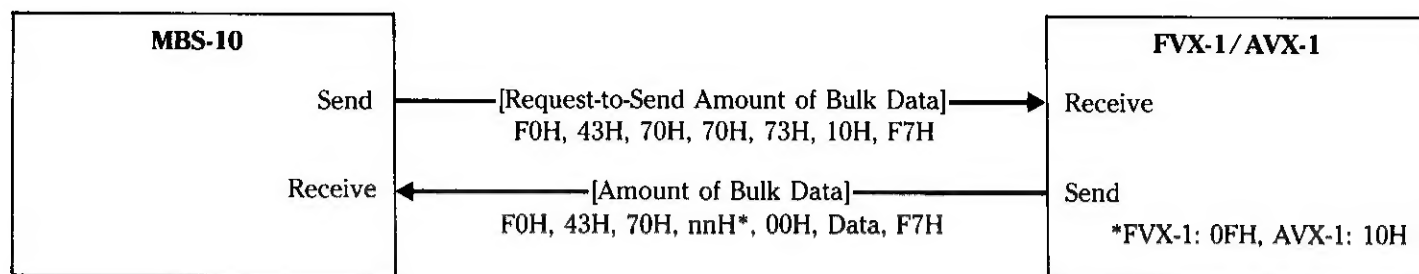
When the above step is performed, the data stored in the internal memory of MBS-10 is written to the destination RAM Pack.

NOTE: If an error occurs while the data is being written, the ERROR lamp flashes, and a Status Code is shown at the Digital Display, so remedy the problem by following the instructions in "The Status Codes" on page 11.

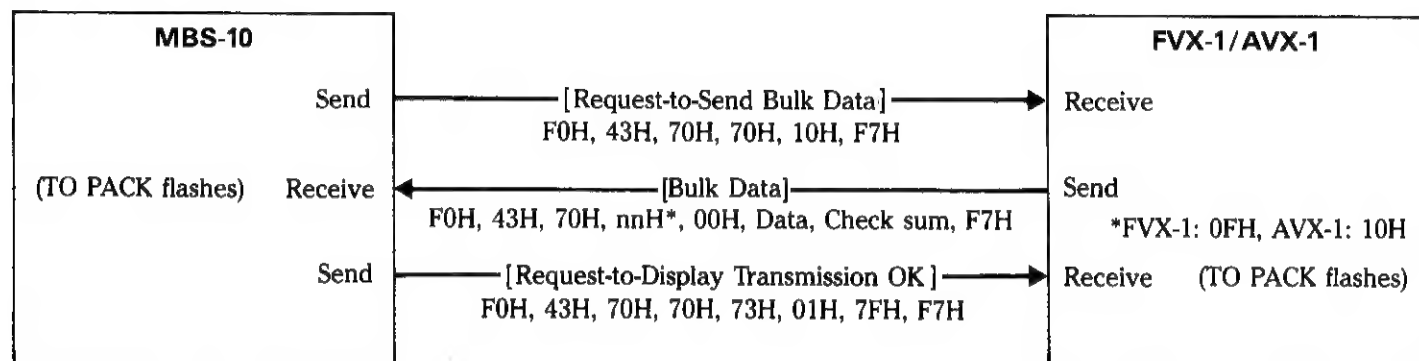
III. OTHER INFORMATION

Data Transfer with a Voice Expander

① When the power is turned ON



② During a To Pack Operation

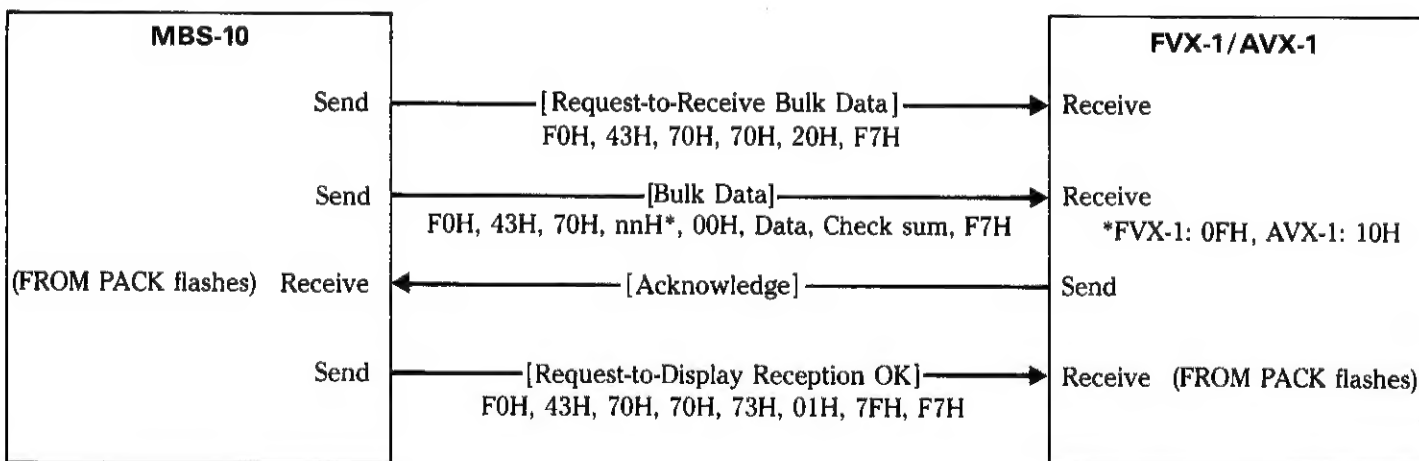


*When a To Pack operation is performed at a Voice Expander panel, the To Pack code (F0H, 43H, 70H, nnH, 73H, 42H, F7H) is first sent from the Voice Expander to MBS-10.

*When the operation to send User Voice data is performed at a FVX-1 panel, the Voice Data Save code (F0H, 43H, 70H, 0FH, 73H, 44H, Data, F7H) is first sent from FVX-1 to MBS-10.

*When the transmission or reception of Bulk data is not successful, Status Code [**CS**] is displayed at MBS-10, and the Request-to-Display Transmission NG (No Good) Code (F0H, 43H, 70H, 70H, 73H, 01H, 00H, F7H) is sent from MBS-10 to the Voice Expander so that Status Code [**CS**] is also displayed at the Voice Expander.

③ During a From Pack Operation



*When a From Pack operation is performed at a Voice Expander panel, the From Pack code (F0H, 43H, 70H, nnH, 73H, 41H, F7H) is first sent from the Voice Expander to MBS-10.

*When the operation to receive User Voice data is performed at a FVX-1 panel, the Voice Data Save code (F0H, 43H, 70H, 0FH, 73H, 43H, Data, F7H) is first sent from FVX-1 to MBS-10.

*When the transmission or reception of Bulk data is not successful, the Acknowledge Code (F0H, 43H, 70H, 70H, 38H, 00H, F7H) is sent from the Voice Expander to MBS-10, then MBS-10 requests that the Bulk data be sent once more. If the second attempt at transmission or reception is not successful, the Status Code [**CS**] is displayed at MBS-10, and the Request-to-Display Reception NG (No Good) Code (F0H, 43H, 70H, 70H, 73H, 01H, 00H, F7H) is sent from MBS-10 to the Voice Expander so that Status Code [**CS**] is also displayed at the Voice Expander.

The Status Codes

- If any of the Status Codes listed below is shown at the Digital Display, follow the instructions provided.
- Pressing the CONFIRM switch will clear the Status Code display (except in the case of [C00]).

Display	Code Description and Remedy
[C00]	The total amount of Bulk data of the connected Voice Expanders exceeds the memory capacity of MBS-10. (This code is usually not displayed.)
[C01]	Bulk data cannot be written because the inserted RAM Pack lacks sufficient memory capacity. Either install the 32K byte RP-5 or select a specific Pack Port, then repeat the To Pack operation.
[C02]	<p>①The inserted RAM Pack contains either no data or data that was written from an instrument or device other than MBS-10. (To Pack can be performed, but From Pack cannot.)</p> <p>②Because the RAM Pack contains either no data or data that was written from an instrument or device other than MBS-10, the Bulk data cannot be read. Insert a RAM Pack that contains data written from MBS-10 (or an HX Voice Pack), then repeat the From Pack operation.</p>
[C03]	The memory capacity of the inserted RAM Pack (or ROM Pack) exceeds the memory capacity of MBS-10. Use a RAM Pack (or ROM Pack) with a memory capacity of 32K bytes or less.
[C04]	<p>①The Bulk data of the inserted RAM Pack either is from a Voice Expander of a different model than the currently connected type or was written with the Pack Ports connected differently than the current connection. (To Pack can be performed, but From Pack cannot.)</p> <p>②Because the Bulk data contained in the RAM Pack is of a different model Voice Expander or was written with the Pack Ports connected differently, the Bulk data cannot be read. Either change the Pack Port connections to match the status when the Bulk data was originally written or insert a RAM Pack containing data that was written under the current connected status, then repeat the From Pack operation.</p>
[C05]	An error occurred during data transfer with the Voice Expander. Check the RAM Pack, the connection, your procedure, etc., then repeat the To Pack or From Pack operation.
[C06]	<p>①With all Pack Ports set to OFF and no RAM Pack inserted, a To Pack or From Pack operation was performed. Insert a RAM Pack, then perform the To Pack or From Pack operation.</p> <p>②Due to some defect in the RAM Pack, the data could not be read or written successfully.</p>
[C07]	<p>①The Bulk data could not be written to the RAM Pack because its WRITE PROTECT switch is set to ON. Set the WRITE PROTECT switch to OFF, then repeat the To Pack operation.</p> <p>②The data cannot be read from the ROM Pack because the ROM Pack is copy-protected.</p>
[C08]	The Bulk data could not be written because a ROM Pack is inserted. Remove the ROM Pack, insert a RAM Pack, then repeat the To Pack operation.
[C09]	The data could not be transferred because no Voice Expander is connected to the selected Pack Port (or because the POWER switch of that Voice Expander is OFF). Either select the Pack Port of a connected Voice Expander or connect a Voice Expander to the selected Pack Port (or turn its power ON), then repeat the To Pack or From Pack operation.

Specifications

●Internal RAM capacity:	32K bytes	●Display:	Digital Display
●Recording medium:	RAM Pack (RP-5/RP-3)	●I/O Jacks:	PACK PORT 1, 2, 3, 4
●Switches:	POWER, MIDI ENABLE, PORT SELECT, CONFIRM, FROM PACK, TO PACK		MIDI IN, MIDI OUT, MIDI THRU
●Lamps:	SELECTED Port (P1, P2, P3, P4), CONNECTED Port (P1, P2, P3, P4), READY, ERROR	●Rated power consumption:	9W
		●Size (W × D × H):	200 mm × 210 mm × 88 mm
		●Weight:	3.0 kg

FCC INFORMATION (USA)

While the following statements are provided to comply with FCC Regulations in the United States, the corrective measures listed are applicable worldwide.

This equipment use frequencies that appear in the radio frequency range, and if installed in the immediate proximity of some types of audio or video devices within three meters (approximately ten feet), interference may occur.

This equipment has been type-tested and found to comply with the specifications set for a class B computer in accordance with those specifications listed in sub-part J, part 15 of the FCC rules. These rules are designed to provide a reasonable measure of protection against such interference. However, this does not guarantee that interference will not occur.

If this equipment should be suspected of causing interference with other electronic devices, verification can be made by turning this equipment off and on. If the interference continues when this equipment is off, this equipment is not the source of the interference. If this equipment does appear to be the source of the interference, you should try to correct the situation by using one or more of the following measures:

- Relocate either this equipment or the electronic device that is being affected by the interference.
- Utilize power outlets for this equipment and the device being affected that are on different branch (circuit breaker or fuse) circuits, or install AC line filters.
- In the case of radio-TV interference, relocate the antenna or if the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact an authorized Yamaha Electone™ dealer for suggestions and/or corrective measures. If you can not locate an authorized Yamaha Electone™ dealer in your general area, please contact the Electone™ Service Department, YAMAHA MUSIC CORP, U.S.A. 6600 Orangethorpe Ave., Buena Park, CA 90620.

If for any reason, you should need additional information relating to radio or TV interference, you may find a booklet prepared by the Federal Communications Commission Helpful: "How to Identify and Resolve Radio-TV Interference Problems." This booklet, Stock #004-000-00345-4, is available from the US. Government Printing Office, Washington DC. 20402.

